

# TMI Multi-Module SOFC

**Title:** “High Efficiency, Low Emissions, Solid Oxide Fuel Cell Systems for Multiple Applications”

**Contract:** DE-FC26-00NT41009

**POC:** Ohio Dept. of Development,  
Office of Energy Efficiency

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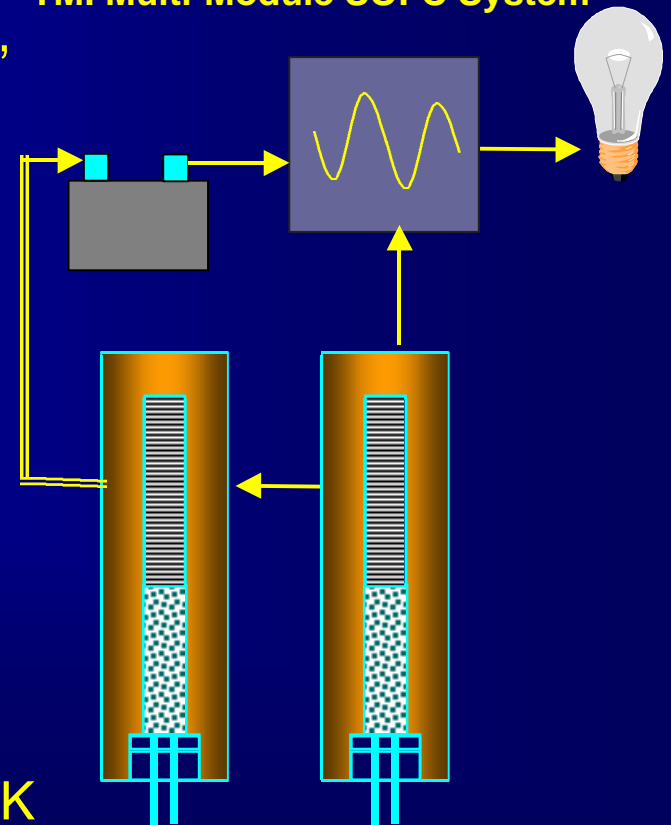
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**Sub-Contract:** Technology Management, Inc.,  
Cleveland, OH

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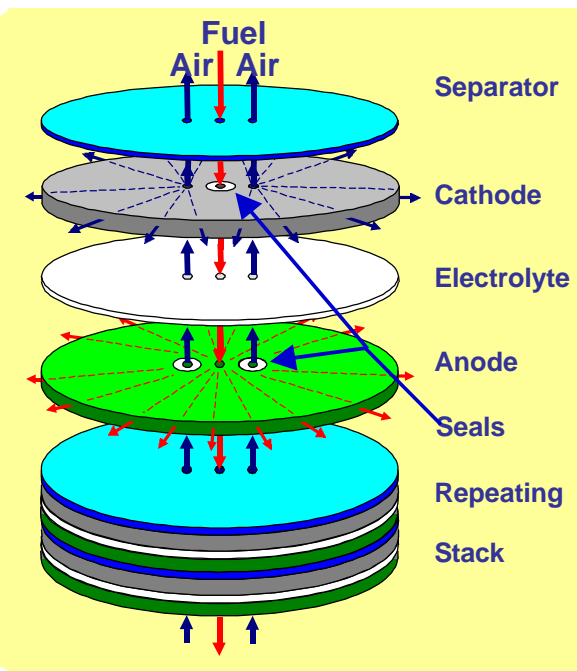
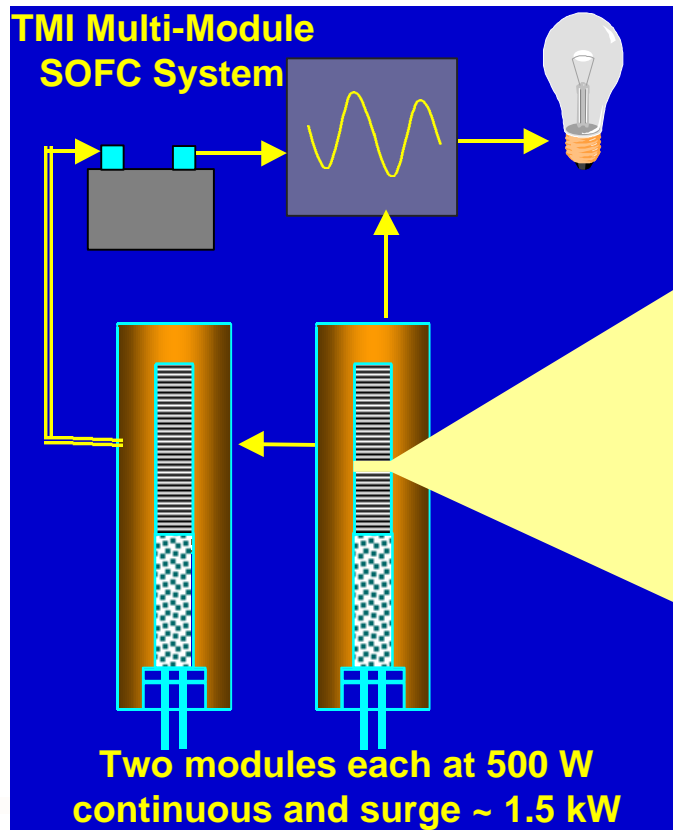
**Funding:** \$602K=DOE \$482K + Ohio/TMI \$120K

TMI Multi-Module SOFC System



# Project Description

- Design, build and demonstrate a multi-module prototype SOFC system (with primary power conditioning & energy storage) that operates on:
  - Phase I - natural gas and propane
  - Phase II - kerosene and renewable fuels (i.e., biogas)



# Project Objectives & Milestones

- Achieve load sharing & load following
- Operate  $\geq 500$  hours on:
  - conventional fuels (natural gas/propane) - Phase I
  - alternative fuels (kerosene/renewable) - Phase II

Phase	Task	2001				2002				2003
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
I	Integrated System & Fuel Cell Design & Simulations	●	●							
	Fuel Cell Module Lab Prototype Fabrication		●	●	●					
	Testing & Demonstration on NG & Propane			●	●	●				
II	Integrated System & Fuel Cell Design & Simulations					●	●			
	Fuel Cell Module Lab Prototype Fabrication (Alternative Fuels)						●	●	●	
	Testing & Demonstration on Alternative Fuels							●	●	●



# Significant Accomplishments

- Completed
  - Phase I Fuel Cell System Design
  - Fabrication of Auxiliary Load Subsystem
  - Assembly and Debugging Testing of Multi-Module Interface Subsystem
  - Integration of Balance-of-Plant Components
  - Assembly of Fuel Cell System
- Initiated Fuel Cell System Debugging

